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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------------------|-------------|----------------------|---------------------|------------------|
| 09/893,559 | 06/29/2001 | Jong Sang Back | 8733.448.00 | 5057 |
| 30827 | 7590 | 10/05/2007 | EXAMINER | |
| MCKENNA LONG & ALDRIDGE LLP | | | BECK, ALEXANDER S | |
| 1900 K STREET, NW | | | ART UNIT | PAPER NUMBER |
| WASHINGTON, DC 20006 | | | 2629 | |
| MAIL DATE | | DELIVERY MODE | | |
| 10/05/2007 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|-----------------|--------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/893,559 | BAEK ET AL. | |
| Examiner | Art Unit | | |
| Alexander S. Beck | 2629 | | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 17 August 2007.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 12-35 is/are pending in the application.
 4a) Of the above claim(s) 18-35 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 12-17 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 07 January 2005 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 17, 2007, has been entered, in which claims 12, 14 and 16 are amended. Claims 12-17 are currently pending in U.S. Patent Application No. 09/893,559 and an Office action on the merits follows.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,279,035 to Skerlos (hereinafter "Skerlos") in view of U.S. Patent No. 5,686,846 to Holcomb et al. (hereinafter "Holcomb") and U.S. Patent No. 5,713,040 to Lee (hereinafter "Lee").

As to claims 12, 14 and 16, Skerlos discloses a method of driving a display comprising: receiving an input signal having a first period corresponding to a number of lines in the display; and comparing the first period with a reference period. (Skerlos at col. 11, ll. 12-18.) Moreover, Skerlos signal outputting a signal of a first state (e.g. 'ok pulse flag') only if the first period is indicative of an input signal presence (e.g. vsync); and determining the absence or the presence of the input signal according to the number of the signal of the first state during a predetermined interval (e.g. number of pulses, at least one for presence and none for absence). (Skerlos at TABLE 1.) As to the method of determining the absence or the presence, Skerlos does not disclose expressly if the number of the signal of the first state is *not less than a predetermined plural number*. Rather, Skerlos merely discloses determining the absence or the presence if the number of the signal of the first state (i.e. pulse number) is *not less than one*. However, Holcomb discloses a method of detecting the presence of a single pulse with edge detect circuits that generate pulses in response to both rising and falling edges of a signal (e.g. a rising and falling edge constitute a single pulse). (Holcomb at col. 4, ll. 12-14.)

All of the claimed teachings are known in Skerlos and Holcomb. The only difference is the combination of the "old teachings" into a single method of determining the absence or presence of a vertical synchronization signal in a display device. Thus, it would have been obvious to one having ordinary skill in the art to provide the edge detect circuit taught by

Holcomb into the teachings of Skerlos for the purpose of detecting the presence (or absence) of an ‘ok pulse flag’ based on the number of detected rising/falling edges (e.g. two total rising/falling edges for a single pulse), and generating a pulse in response to each rising and falling edge. This would have been obvious because the operation of an edge detect circuit is in no way dependent on the operation of the other circuitry in Holcomb, and an edge detect circuit could be used in combination with any received signal to achieve the predictable results of determining the presence (or absence) of a pulse. As such, Skerlos as modified by Holcomb teach/suggest determining the absence or the presence of the input signal if the number of the signal (e.g. ‘ok pulse flag’ or ‘no ok pulse flag’) of the first state is not less than a predetermined plural number (e.g. 2) during a predetermined interval; wherein the number is 2 for an ‘ok pulse flag’ and 0 for ‘no ok pulse flag’.

Moreover, Skerlos does not disclose expressly wherein the comparing of the first period with a reference period includes: determining only whether the first period is less than a first reference period; determining only whether the first period is greater than a first reference period; or determining only whether the first period is less than a first reference period and greater than a second reference period. Lee discloses a method of detecting the absence or the presence of different v-sync signals in Figures 3A and 3B, comprising: receiving an input signal having a first period corresponding to a number of lines in the display; determining only whether the first period is less than a first reference period; determining only whether the first period is greater than a first reference period; and determining only whether the first period is less than a first reference period and greater than a second reference period. (Lee at col. 4, ll. 7-67.)

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to further modify the teachings of Skerlos and Holcomb such that the comparing of the first period with a reference period includes: determining only whether the first period is less than a first reference period; determining only whether the first period is greater than a first reference period; and determining only whether the first period is less than a first reference period and greater than a second reference period, as taught/suggested by Lee. The suggestion/motivation for doing so would have been to detect the absence or the presence of a v-sync signal in the event that v-sync signals of more than one value may be received by the display. (Lee at col. 1, ln 58 – col. 2, ln. 12.)

As to claims 13, 15 and 17, Skerlos discloses wherein the receiving, determining and outputting steps are repeated and determining if the first state is output a second time. (Skerlos at col. 13, ln. 7-12.)

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander S. Beck whose telephone number is (571) 272-7765. The examiner can normally be reached on M-F, 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

asb
September 25, 2007



SUMATI LEFKOWITZ
SUPERVISORY PATENT EXAMINER